

EUPTERYX DECEMNOTATA REY (HEMIPTERA, CICADELLIDAE) NEW TO BRITAIN

N. MACZEY¹ AND M. R. WILSON²

¹*Ecological Applications CABI Bioscience, Bakeham Lane, Egham, Surrey TW20 9TY*

²*Department of Biodiversity & Systematic Biology, National Museums & Galleries of Wales,
Cardiff, CF10 3NP*

ABSTRACT

The leafhopper *Eupteryx decemnotata* Rey (Cicadellidae, Typhlocybinæ), is reported for the first time from southern Britain. Notes on the taxonomy, distribution and biology are given.

INTRODUCTION

Within the subfamily of the Typhlocybinæ, most species of the genus *Eupteryx* are characterized by very distinctive colour patterns on wings and head. This and the fact that a lot of the species feed on common and widespread host plants, especially on nettles and Lamiaceae (Stewart, 1988), makes them one of the most obvious leafhopper genera in urban and suburban environments. Currently sixteen species are known from Britain (Le Quesne & Payne, 1981).

On the 17th August 2002 a single specimen of a *Eupteryx* species was collected from a potted plant of *Salvia officinalis* L. from a garden in Ascot, Berkshire (SU927678). Since the specimen was a female, no certain identification was possible although the distinctive pattern of the vertex suggested the species was *E. decemnotata* Rey (Fig. 1a). Then on the 21st August a single male specimen was obtained from the same plant. The dissection of the aedeagus was consistent with that for *E. decemnotata* from the figure in Ribaut (1936). No other specimens were recorded until one male and three females were collected by Andrew Halstead from *Salvia* and other herbs at Wisley Gardens, Surrey during the week up to October 5th, which were confirmed as *E. decemnotata*. Further *Eupteryx* including specimens of *E. decemnotata* were collected there on the 14th October 2002. Other species found on *S. officinalis* at Wisley were *E. atropunctata* (Gocze), *E. florida* Ribaut, and *E. melissae* Curtis.

EUROPEAN DISTRIBUTION

Eupteryx decemnotata is a widespread species of the Mediterranean region of France and Italy (Ribaut, 1936; Nast, 1972, 1987) but has apparently started to spread northwards recently. In Germany it was first recorded in 1989 and has been found since in more than 20 localities all over the country (Nickel 2003). More recent records are from Switzerland, eastern Austria, Slovenia and parts of France outside the Mediterranean region (Günthart, 1987; della Giustina & Balasse, 1999; Holzinger & Seljak, 2001; Mühletaler, 2001; Nickel, 2003). This rapid range expansion might be partially related to the extensive and growing trade in garden herbs, which would explain the almost exclusive appearance of the species in synanthropic habitats and the lack of it in natural sites within the newly invaded

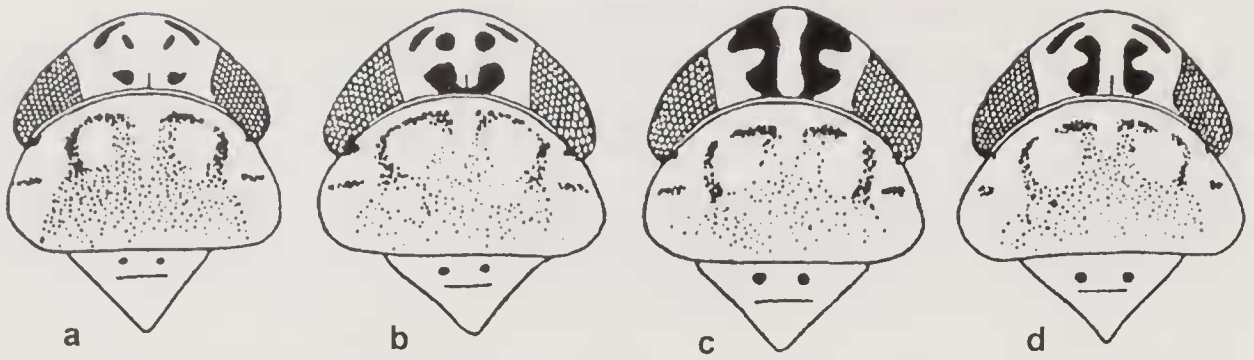


Fig. 1. *Eupteryx decemnotata*; head, pronotum and scutellum of (a) forma *typica*; (b) var. *Lombardi*; (c) var. *trochlearis*; (d) var. *litterata* (drawings adapted from Ribaut, 1936).

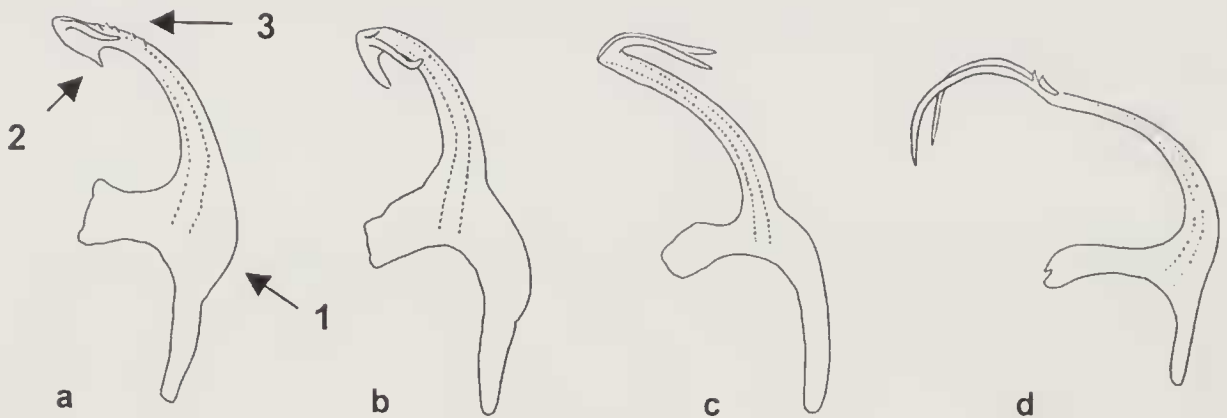


Fig. 2. Aedeagus of (a); *Eupteryx decemnotata* (b) *E. zelleri*; (c) *E. melissae*; (d) *E. florida* (drawings adapted from Ribaut, 1936).

range (Nickel & Remane, 2002). Another explanation for the range expansion could be ongoing climate change. Here milder winters might be even more important for a species of Mediterranean origin than warmer summers.

HOST PLANTS AND BIOLOGY

Various species of the Lamiaceae are named as host plants for this mesophyll-feeding species: *S. officinalis* L., *Rosmarinus officinalis* L., *Melissa officinalis* Linnaeus, *Nepeta* spp. and *Thymus* spp. (Vidano *et al.*, 1979; Scaltriti, 1989; Nickel & Remane, 2002). In Switzerland *E. decemnotata* is known as a pest on rosemary (*R. officinalis*) grown in plastic tunnels (Mittaz *et al.*, 2001). However, in Britain *E. decemnotata* has been found only on *S. officinalis* so far. It is possible that the species is already widespread in southern England and it is most likely to be found in synanthropic habitats such as gardens, parks and other urban green spaces due to its hostplant habitat. Previous work has suggested that the higher than average temperatures found within London can influence the abundance and life history of leafhoppers (Badmin, 1995). Higher temperatures in combination with a high density of suitable host plants make it likely that *E. decemnotata* is already well established within the London area.

IDENTIFICATION

Identification of *E. decemnotata* specimens using the key of Le Quesne & Payne (1981) leads to *E. melissae*. So it is important to distinguish *E. decemnotata* from

E. melissae and as well from the similar *E. florida*, which both can appear on the same host plants together with *E. decemnotata*. Although the typical pattern of the vertex of the *forma typica* (Fig. 1a) already gives a strong clue to the identification of the species, in some cases only the investigation of the aedeagus (Fig. 2) can confirm its identity, as other variations with different head patterns have been described from France (Ribaut, 1936) (Figs. 1b-d). However, these forms have not been found in Britain so far. The main characteristics of the aedeagus of *E. decemnotata* in comparison with closely related species (e.g. *E. melissae*, *E. florida*) are an evenly curved dorsal side (Fig. 2a1), a distinctive medial sharp hooklike structure pointing inwards from the distal end (Fig. 2a2) and lateral crested ridges towards the distal end (Fig. 2a3). It should be mentioned here that the aedeagus of *E. decemnotata* is very similar to that of *E. zelleri* Kirschbaum (Fig. 2b), a closely related species widespread in the Mediterranean region. The main difference between them is that the aedeagus of *E. zelleri* lacks the lateral crested ridges and has the medial hook formed in a more elongated and curved way.

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BOOK REVIEW

Biology of leaf beetles by P. Jolivet and K.K. Verma. (Intercept, Andover, Hampshire, 2002). 332 pp. Hardback £52.00. ISBN 1 898298 86 6.

It is always refreshing to see new publications dealing with the biology of Coleoptera since books on identification and distribution have prevailed in the past. Although not intended to be in any way an identification guide to Chrysomelidae, some useful notes and illustrations of the main subfamilies (Bruchinae are excluded) will help those not familiar with the family. Intended to be an introduction to the biology of leaf beetles, the book contains a vast amount of information on world Chrysomelidae, presented in a format that is both user friendly to access and interesting to read. However, the authors admit that it is almost impossible to cover every aspect of the subject in a work of this size.

Following the contents pages, a brief Preface and Foreword, the text is divided into 12 chapters entitled: Introduction, Classification, Palaeontology: food plants and evolution, Food and Feeding, Development stages, Ecology, Biogeography: Island faunas, Defence Strategies, Anatomy, Reproduction, Association with other organisms and Phylogeny of Subfamilies. Additional subheadings in bold type are listed in the Contents, but other paragraph subheadings are not listed here, although many topics can be found alphabetically in the Subject Index. The combination of Contents pages and multiple indices (Subject Index, Taxonomic Index – Animals and Taxonomic Index – Plants) provides a useful short-cut to locating information on almost every aspect of leaf beetle biology. There are several monochrome photographs and many line drawings, but no colour illustrations. There is also an extensive bibliography consisting of 46 pages of references.

Of course, in a work dealing with such a diverse group of beetles, there are bound to be details relating to species occurring in the British Isles that are not fully explained. For example, British species of *Lebia* (Coleoptera: Carabidae) are known to be parasitoids of chrysomelid pupae, but the only mention of this genus is in the section heading Predators where Lebiinae (Carabidae) are cited as being “specialists in the capture of the larvae and adults of chrysomelids on their host plants”. Doubtless the technical differences between the terms parasitoid and predator are well documented elsewhere, but this is not explained by the present authors.

Unfortunately, the last section of my review copy detached itself from the binding after less than an hour of use. Also the type on pages 307–332 is not printed squarely on the page. Nevertheless, it is hoped that this is exceptional and not typical of the entire print run, so it should not deter the serious student from purchasing this informative, if rather expensive book.